

IN THE CLAIMS:

Claim 1 (currently amended) A peptidomimetic compound having general formula Xaa-AA₁-AA₂, X-CX₁-NH-AA₁-CONH-AA₂ wherein X Xaa is a heterocyclic or unusual amino acid, X₁ is O or H₂-H and AA₁ and AA₂ are amino acids, and the bond between Xaa and AA₁ is either C(O)-NH or CH₂-NH

Claim 2 (currently amended) A peptidomimetic compound according to claim 1 wherein Xaa X is a heterocyclic selected from the group consisting of F-moc-3- (2-furyl)-L-alanine, F-3- (3-thienyl)-L-alanine, 4-Fmoc-piperazine-1-yl-acetic acid hydrate, Fmoc-3, 3-diphenyl-L-alanine, 1-Fmoc-azetidine-3-carboxylic acid, Benzimidazolepropionic acid, Fmoc1,2,3,4 tetrahydroquinoline-3-carboxylic acid, 2-oxo-4-phenyl-3-oxazolidine-acetic acid, 5-Methoxy-2-methyl-3-indole acetic acid and 5-Mercapto-1-terazole acetic acid.

Claim 3 (cancelled)

Claim 4 (previously presented) A peptidomimetic compound according to claim 1 wherein AA₁ and AA₂ are selected from the group consisting of Orn-Pro, Cha-Pro, Ile-Pro, Dap-Pro, Val-Trp, Lys-Pro, Lys-Trp, Orn-Trp, Dap-Trp, Ile-Phe, β-Ala-Pro, Pro-Pro and Cha-Trp.

Claims 5 and 6 (cancelled)

Claim 7 (currently amended) A peptidomimetic compound according to claim 1 wherein the concentration of the peptidomimetic compound for 50% inhibition of ACE activity (IC_{50}) ~~range~~ ranges from 2 to 10 micromolar.

Claim 8 (previously presented) A peptidomimetic compound according to claim 1 wherein a dose of the peptidomimetic compound which blocks angiotensin converting enzyme ranges between 5- 8 mg/kg of body weight of a mammal.

Claim 9 (withdrawn) A process to synthesize the peptidomimetic compound of claim 1, comprising

(a) coupling ACE inhibiting antihypertensive peptidomimetic molecule wherein a heterocyclic or unusual amino acid present at ante-penultimate position is coupled to a dipeptide with amino acids present at ultimate position and penultimate position;

(b) synthesising dipeptide on a solid support by coupling and deprotection;

(c) coupling the heterocyclic or unusual amino acid to deprotected dipeptide at the N- α terminal of dipeptide;

(d) cleaving the synthesized peptidomimetic compound of step (c) from solid support followed by purification and characterization;

Claims 10 - 17 (cancelled)

Claim 18 (previously presented) A method for inhibiting angiotensin converting enzyme in a mammal comprising providing the peptidomimetic compound of claim 24, and administering the

peptidomimetic compound to the mammal as an angiotensin converting enzyme inhibitor.

Claim 19 (withdrawn) The method according to claim 18 wherein the peptidomimetic compound is administered to the mammal in a dose effective to block angiotensin converting enzyme in the mammal, said dose ranging between 5- 8 mg/kg of body weight of the mammal.

Claim 20 (withdrawn) Method for the inhibition of angiotensin converting enzyme in a subject suffering from hypertension comprising administering to the subject a pharmaceutically effective amount of the peptidomimetic compound of claim 1 with a pharmaceutically effective carrier.

Claim 21 (withdrawn) Method according to claim 20 wherein the subject is a mammal.

Claim 22 (withdrawn) Method according to claim 20 wherein the subject is a human being.

Claim 23 (withdrawn) Method according to claim 20 wherein the peptidomimetic compound is administered to the subject in a dose which effectively blocks angiotensin converting enzyme in the subject, said dose ranging between 5- 8 mg/kg of body weight of the subject.

Claim 24 (previously presented) The peptidomimetic compound according to claim 1, wherein AA₁ is ornithine and AA₂ is proline.

Claim 25 (currently amended) The peptidomimetic compound according to claim 24, wherein X_{aa} is L-Abrine.

Claim 26 (currently amended) The peptidomimetic compound according to claim 1, ~~which is represented by general formula~~ $X-CX_r-NH-AA_1-CONH-AA_2$ wherein AA_1 is ornithine and AA_2 is proline.

Claim 27 (currently amended) The peptidomimetic compound according to claim 26, wherein ~~X~~ Xaa is L-Abrine.

Claim 28 (previously presented) The peptidomimetic compound according to claim 1, wherein the peptidomimetic compound is selected from the group consisting of (a) L-Abrine-Orn-Pro, 3- (3-thienyl)-L-alanine-Orn-Pro, 3- (2-furyl)-L-alanine-Orn-Pro, 2-Benzimidazoleacetic acid-Orn-Pro, 5-Hydroxytryptophan-Orn-Pro, Homotryptophan-Orn-Pro, Homophenylalanine-Orn-Pro, 1,2,3,4-tetrahydro isoquinoline-3-carboxylic acid-Orn-Pro, Azetidine-3-carboxylic acid-Orn-Pro, Cyclohexylalanine-Orn-Pro, 2-Oxo-4-phenyl-3-oxazolidine acetic acid-Orn-Pro, and 4-piperazine acetic acid-Orn-Pro.

Claim 29 (currently amended) A peptidomimetic compound according to claim 1 wherein Xaa ~~X~~ is an unusual amino acid selected from a group consisting of 5-Hydroxytryptophan, L-Abrine, L- β -homoproline, β -HomoTrp-OH, Homophenylalanine L- β -homotryptophan, L-2-propargyl glycine, 3,3 Diphenylalanine, L- β -Homohydroxyproline and Cyclohexylalanine.

Claim 30 (previously presented) A peptidomimetic compound according to claim 1 wherein the peptidomimetic compound is selected from the group consisting of:

(a) L-Abrine-Orn-Pro, 3-(3-thienyl)-L-alanine-Orn-Pro, 3-(2-furyl)-L-alanine-Orn-Pro, 2-Benzimidazoleacetic acid-Orn-Pro, 5-Hydroxytryptophan-Orn-Pro, Homotryptophan-Orn-Pro, Homophenylalanine-Orn-Pro, 1,2,3,4-tetrahydro isoquinoline-3-carboxylic acid-Orn-Pro, Azetidine-3-carboxylic acid-Orn-Pro, Cyclohexylalanine-Orn-Pro, 2-Oxo-4-phenyl-3-oxazolidine acetic acid-Orn-Pro, 4-piperazine acetic acid-Orn-Pro;

(b) L-Abrine-Cha-Pro, 3-(3-thienyl)-L-alanine-Cha-Pro, 3-(2-furyl)-L-alanine-Cha-Pro, 2-Benzimidazoleacetic acid-Cha-Pro, 5-Hydroxytryptophan-Cha-Pro, Homotryptophan-Cha-Pro, Homophenylalanine-Cha-Pro, 1,2,3,4-tetrahydro isoquinoline-3-carboxylic acid-Cha-Pro, Azetidine-3-carboxylic acid-Cha-Pro, Cyclohexylalanine-Cha-Pro, 2-Oxo-4-phenyl-3-oxazolidine acetic acid-Cha-Pro, 4-piperazine acetic acid-Cha-Pro;

(c) L-Abrine-Ile-Pro, 3-(3-thienyl)-L-alanine-Ile-Pro, 3-(2-furyl)-L-alanine-Ile-Pro, 2-Benzimidazoleacetic acid-Ile-Pro, 5-Hydroxytryptophan-Ile-Pro, Homotryptophan-Ile-Pro, Homophenylalanine-Ile-Pro, 1,2,3,4-tetrahydro isoquinoline-3-carboxylic acid-Ile-Pro, Azetidine-3-carboxylic acid-Ile-Pro, Cyclohexylalanine-Ile-Pro, 2-Oxo-4-phenyl-3-oxazolidine acetic acid-Ile-Pro, 4-piperazine acetic acid-Ile-Pro;

(d) L-Abrine-Dap-Pro, 3-(3-thienyl)-L-alanine-Dap-Pro, 3-(2-furyl)-L-alanine-Dap-Pro, 2-Benzimidazoleacetic acid-Dap-Pro, 5-Hydroxytryptophan-Dap-Pro, Homotryptophan-Dap-Pro, Homophenylalanine-Dap-Pro, 1,2,3,4-tetrahydro isoquinoline-3-carboxylic acid-Dap-Pro, Azetidine-3-carboxylic acid-Dap-Pro, Cyclohexylalanine-Dap-Pro, 2-Oxo-4-phenyl-3-oxazolidine acetic acid-Dap-Pro, 4-piperazine acetic acid-Dap-Pro;

(e) L-Abrine-Val-Trp, 3-(3-thienyl)-L-alanine-Val-Trp, 3-(2-furyl)-L-alanine-Val-Trp, 2-Benzimidazoleacetic acid-Val-Trp, 5-Hydroxytryptophan-Val-Trp, Homotryptophan-Val-Trp, Homophenylalanine-Val-Trp, 1,2,3,4-tetrahydro isoquinoline-3-

carboxylic acid-Val-Trp, Azetidine-3-carboxylic acid-Val-Trp, Cyclohexylalanine-Val-Trp, 2-Oxo-4-phenyl-3-oxazolidine acetic acid-Val-Trp, 4-piperazine acetic acid-Val-Trp;

(f) L-Abrine-Lys-Pro, 3-(3-thienyl)-L-alanine-Lys-Pro, 3-(2-furyl)-L-alanine-Lys-Pro, 2-Benzimidazoleacetic acid-Lys-Pro, 5-Hydroxytryptophan-Lys-Pro, Homotryptophan-Lys-Pro, Homophenylalanine-Lys-Pro, 1,2,3,4-tetrahydro isoquinoline-3-carboxylic acid-Lys-Pro, Azetidine-3-carboxylic acid-Lys-Pro, Cyclohexylalanine-Lys-Pro, 2-Oxo-4-phenyl-3-oxazolidine acetic acid-Lys-Pro, 4-piperazine acetic acid-Lys-Pro;

(g) L-Abrine-Lys-Trp, 3-(3-thienyl)-L-alanine-Lys-Trp, 3-(2-furyl)-L-alanine-Lys-Trp, 2-Benzimidazoleacetic acid-Lys-Trp, 5-Hydroxytryptophan-Lys-Trp, Homotryptophan-Lys-Trp, Homophenylalanine-Lys-Trp, 1,2,3,4-tetrahydro isoquinoline-3-carboxylic acid-Lys-Trp, Azetidine-3-carboxylic acid-Lys-Trp, Cyclohexylalanine-Lys-Trp, 2-Oxo-4-phenyl-3-oxazolidine acetic acid-Lys-Trp, 4-piperazine acetic acid-Lys-Trp;

(h) L-Abrine-Orn-Trp, 3-(3-thienyl)-L-alanine-Orn-Trp, 3-(2-furyl)-L-alanine-Orn-Trp, 2-Benzimidazoleacetic acid-Orn-Trp, 5-Hydroxytryptophan-Orn-Trp, Homotryptophan-Orn-Trp, Homophenylalanine-Orn-Trp, 1,2,3,4-tetrahydro isoquinoline-3-carboxylic acid-Orn-Trp, Azetidine-3-carboxylic acid-Orn-Trp, Cyclohexylalanine-Orn-Trp, 2-Oxo-4-phenyl-3-oxazolidine acetic acid-Orn-Trp, 4-piperazine acetic acid-Orn-Trp;

(i) L-Abrine-Dap-Trp, 3-(3-thienyl)-L-alanine-Dap-Trp, 3-(2-furyl)-L-alanine-Dap-Trp, 2-Benzimidazoleacetic acid-Dap-Trp, 5-Hydroxytryptophan-Dap-Trp, Homotryptophan-Dap-Trp, Homophenylalanine-Dap-Trp, 1,2,3,4-tetrahydro isoquinoline-3-carboxylic acid-Dap-Trp, Azetidine-3-carboxylic acid-Dap-Trp, Cyclohexylalanine-Dap-Trp, 2-Oxo-4-phenyl-3-oxazolidine acetic acid-Dap-Trp, 4-piperazine acetic acid-Dap-Trp;

(j) L-Abrine-Ile-Phe, 3-(3-thienyl)-L-alanine-Ile-Phe, 3-(2-furyl)-L-alanine-Ile-Phe, 2-Benzimidazoleacetic acid-Ile-Phe, 5-Hydroxytryptophan-Ile-Phe, Homotryptophan-Ile-Phe, Homophenylalanine-Ile-Phe, 1,2,3,4-tetrahydro isoquinoline-3-carboxylic acid-Ile-Phe, Azetidine-3-carboxylic acid-Ile-Phe, Cyclohexylalanine-Ile-Phe, 2-Oxo-4-phenyl-3-oxazolidine acetic acid-Ile-Phe, 4-piperazine acetic acid-Ile-Phe;

(k) L-Abrine- β -Ala-Pro, 3-(3-thienyl)-L-alanine- β -Ala-Pro, 3-(2-furyl)-L-alanine- β -Ala-Pro, 2-Benzimidazoleacetic acid- β -Ala-Pro, 5-Hydroxytryptophan- β -Ala-Pro, Homotryptophan- β -Ala-Pro, Homophenylalanine- β -Ala-Pro, 1,2,3,4-tetrahydro isoquinoline-3-carboxylic acid- β -Ala-Pro, Azetidine-3-carboxylic acid- β -Ala-Pro, Cyclohexylalanine- β -Ala-Pro, 2-Oxo-4-phenyl-3-oxazolidine acetic acid- β -Ala-Pro, 4-piperazine acetic acid- β -Ala-Pro;

(l) L-Abrine-Pro-Pro, 3-(3-thienyl)-L-alanine-Pro-Pro, 3-(2-furyl)-L-alanine-Pro-Pro, 2-Benzimidazoleacetic acid-Pro-Pro, 5-Hydroxytryptophan-Pro-Pro, Homotryptophan-Pro-Pro, Homophenylalanine-Pro-Pro, 1,2,3,4-tetrahydro isoquinoline-3-carboxylic acid-Pro-Pro, Azetidine-3-carboxylic acid-Pro-Pro, Cyclohexylalanine-Pro-Pro, 2-Oxo-4-phenyl-3-oxazolidine acetic acid-Pro-Pro, 4-piperazine acetic acid-Pro-Pro;

(j) L-Abrine-Cha-Trp, 3-(3-thienyl)-L-alanine-Cha-Trp, 3-(2-furyl)-L-alanine-Cha-Trp, 2-Benzimidazoleacetic acid-Cha-Trp, 5-Hydroxytryptophan-Cha-Trp, Homotryptophan-Cha-Trp, Homophenylalanine-Cha-Trp, 1,2,3,4-tetrahydro isoquinoline-3-carboxylic acid-Cha-Trp, Azetidine-3-carboxylic acid-Cha-Trp, Cyclohexylalanine-Cha-Trp, 2-Oxo-4-phenyl-3-oxazolidine acetic acid-Cha-Trp, and 4-piperazine acetic acid-Cha-Trp.

Claim 31 (new). A peptidomimetic compound consisting of Xaa-AA₁-AA₂, wherein Xaa is a heterocyclic or unusual amino acid, AA₁ and AA₂ are amino acids, and the bond between Xaa and AA₁ is either C(O)-NH or CH₂NH.